Montana Pesticide Bulletin

MONTANA STATE UNIVERSITY | EXTENSION

September 2007

INSIDE:

MONTANA Department of AGRICULTURE

About the MSU Pesticide Program and the Montana Pesticide Bulletin

By Cecil Tharp, MSU Pesticide Education Specialist

Background

Historically, private applicators work directly with their local Pesticide Safety and Education Coordinators (PSEP) to fulfill their certification needs. County Extension agents fill this need in most counties across Montana. The Montana State University Pesticide Education Specialist, in conjunction with the Montana Department of Agriculture, supervises the implementation of this program and provides regional support. Some regional duties of the Pesticide Education Specialist include answering pesticide related questions, coordinating pesticide education programs, presenting at local county programs, educating local PSEP coordinators on new laws & mandates, and providing general direction for the MSU PSEP program.

This structure has remained intact since its onset until 2003 when our Pesticide Education Specialist became unavailable. The program would continue to run without mishap, even with the lack of a MSU Pesticide Education Specialist until my hire in February 2007. This was mainly due to local PSEP educators (county Extension agents) filling the needs of applicators with limited regional support available.

It is my hope to preserve the positive and proven program that has been available, while adding many new resources which were not previously available to applicators. This will include more types of recertification opportunities, provide local support to county Pesticide Programs, and a periodic update to applicators across the state titled the "Montana Pesticide Bulletin."

Montana Pesticide Bulletin

The Montana State University Pesticide Safety and Education Program (PSEP), in cooperation with the Montana Department of Agriculture, introduce the first issue of the Montana Pesticide Bulletin. This abstract is designed to benefit Montana's applicators, distributors, and general public needs and concerns relating to pesticides. This includes a broad array of subjects including new pesticide registrations, pesticide safety, enforcement issues, updates on program opportunities, and pesticides and the environment. Every issue will also include a section of "Comments from Readers," which will present new ideas or comments that were sent to the MSU Pesticide Education Office in Bozeman, Mont.

For more information, contact:

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Online Credit Opportunities for Private Applicators

By Cecil Tharp, Pesticide Education Specialist, MSU

At times, private applicators can find themselves short on recertification credits in the final days of their certification period. In general, a private applicator needs to cumulate 6 recertification credits before the end of their certification cycle. Certification cycles vary according to the PSEP region they are certified within.

As of July 2007, online credits will be available to all Montana private applicators. This opportunity is available on the MSU PSEP website at www.pesticides.montana.edu. Each applicator has the opportunity to gain two credits within one certification cycle through the online process. Seven different online tests are available currently; they include topics on pesticide safety, calibrations, record keeping, pesticide labels, and personal protective equipment.

Beware that an applicator only has two chances for obtaining online credits, whether they pass or fail. If the applicator receives a 70 percent or better on the online testing, he can print off the page and send it in with a $10 payment to the MSU PSEP. This money will be used to support the MSU PSEP in purchasing new training materials, and updating the online exam website. Online testing submittals will be reviewed by the MSU Pesticide Education Office. Credits will be forwarded to PSEP coordinators (County Extension Agents) in counties that the applicator is certified within.

The MSU Pesticide Education Program stresses that online opportunities should be viewed as last resort to applicators. Priority should always be given to attending regular programs which focus on interaction and valuable feedback.

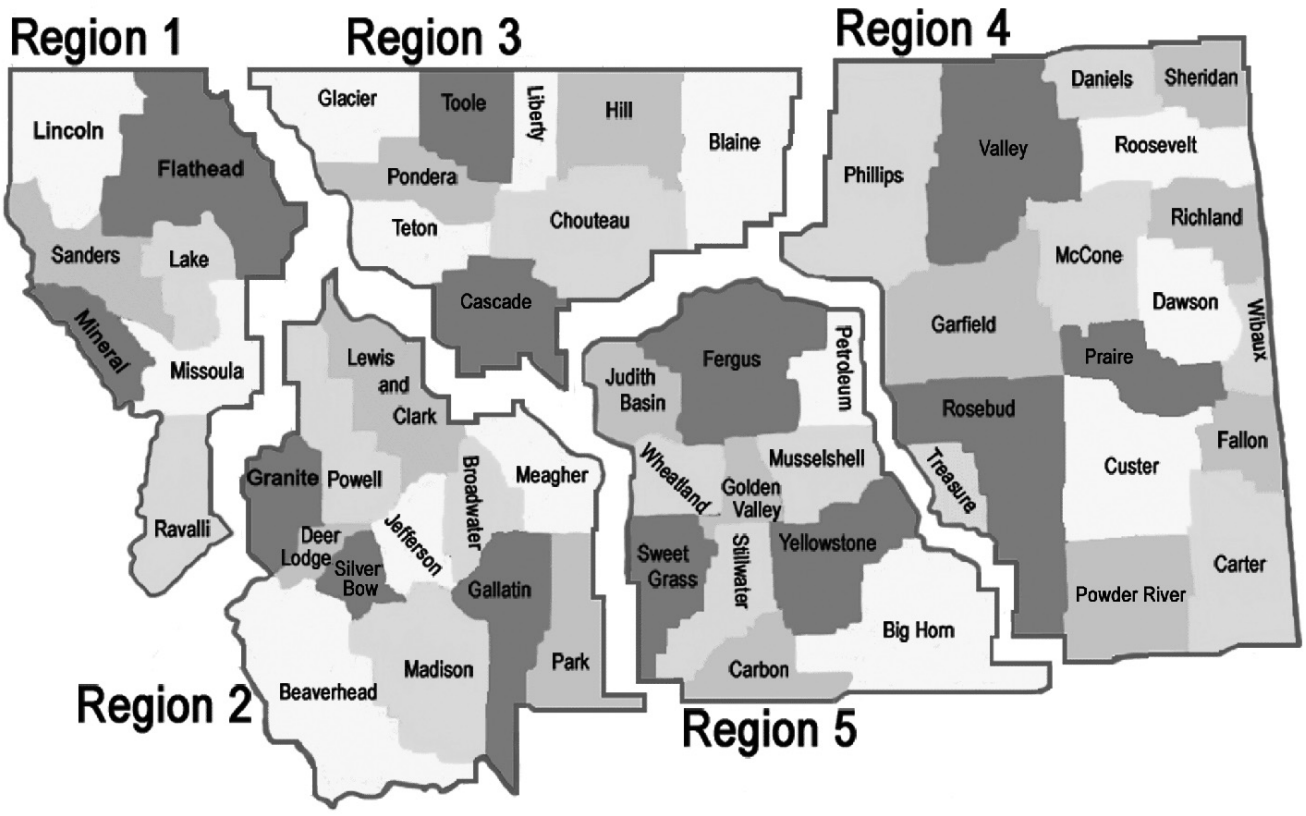
This online credit opportunity should supplement the already existing credit opportunities within your county.

This online credit opportunity is for private applicators only. For information regarding your personal private applicator credits, address changes, or pesticide recertification programs within your county, contact your local extension office.

RECERTIFICATION CYCLE

Region	1 January	31 December
1	2004	2008
2	2005	2009
3	2006	2010
4	2007	2011
5	2003	2007

Montana PSEP Regions & Recertification Schedule



Pesticides and Insects in Montana (The Haanchen Mealybug)

By Cecil Tharp, Pesticide Education Specialist

In the 2006 field season, producers notified MSU of an unusual white residue in small grain fields within Teton and Flathead Counties. Closer inspection by MSU entomology staff further identified many grayish, grub like insects near the base of the plants (Fig 1). These insects were later determined to be the Haanchen Mealy Bug (*Trionymus haancheni* McKenzie), an insect that has never previously been identified in Montana.

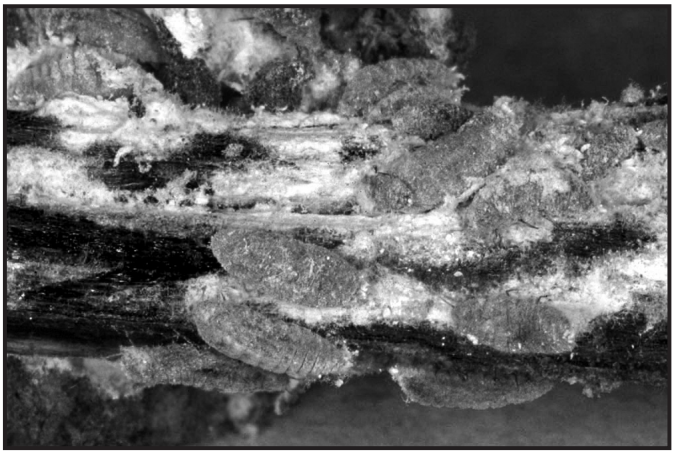


PHOTO TAKEN BY R.K.D PETERSON 2004

Figure 1. Haanchen Mealy Bug

It seems this insect may have arrived by accident from infested plants containing egg sacs or nymphs from neighboring Idaho. The Haanchen Mealy Bug was first identified in Idaho in 2003 in commercial barley fields. By the end of the season Idaho reported 5 million dollars in yield loss from this pest. Since that season Haanchen Mealy Bug has been present in Idaho small grain systems with only minor losses annually. In 2006, this pest was also present in Alberta at sub-economic levels. Factors contributing to these varying degrees of yield loss are still unknown.

Although this insect was not widespread in 2006, it was feared by MSU entomologist's that this could become widespread in the upcoming seasons. In 2007, MSU's fears were realized with multiple reports called in of widespread Haanchen Mealy Bug infestations within irrigated barley systems. Further investigation would confirm this pest to be present throughout parts of northwestern Montana, including Pondera, Teton, and Flathead counties. Informal reports indicated the potential yield loss this pest would cause and the need for insecticide treatments to remedy the situation. To see if this is possible we need to look at this pest in more detail.

ID / Life Cycle

The elongate, oval adults reach approximately 5mm, and are covered with white, waxy secretions. Mealybugs can disperse short distances by crawling from plant to plant. It is possible for this insect to ride on wind currents or be accidentally transported on infested plants or soil transported by humans. Adult females can deposit one loose, cottony egg sac per week near the base of the plant, often under lower leaf sheaths. One egg sac can contain up to 256 eggs. Immature mealy bugs (nymphs) emerge before seeking sites for feeding, before maturing, and repeating the cycle many times within one field season.

Damage

This insect seems to prefer irrigated barley systems, but may be found in dryland systems and/or other small grains. This pest reduces the chlorophyll from the plant, thereby causing an initial yellowing of small grain leaves. This could be due to stress induced by sucking plant juices, or caused by injecting plants with toxins. Haanchen Mealy Bug also leaves a sticky honey-like residue on leaf surfaces, which may plug combines and reduce grain quality. Over time, this insect will inhibit root development, further stressing plants (Fig. 2).

Management

Damage from this pest may cause significant yield loss, however not in all cases. Economic thresholds do not exist, and insecticides are not currently recommended for control of this pest. This is due to the nature of this insect. Nymphs are often protected from insecticides under a waxy, cottony egg sac near the soil surface. In addition, just one surviving mealy bug can produce hundreds of offspring within weeks, which makes chemical control measures often uneconomical. Applications of insecticides are actually known to contribute to future outbreaks, due to the loss of natural enemies.

Tillage seems to reduce future generations of mealy bugs, but does not in itself reduce populations entirely. Fallow or rotation to a non-susceptible crop does eliminate this pest temporarily.

(cont on pg 4)

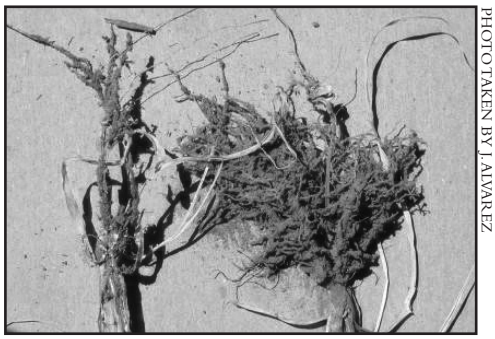


PHOTO TAKEN BY J.ALVAREZ

Figure 2. Root loss from Haanchen Mealy Bug.

(cont from pg 3)

Conclusion

MSU does not currently recommend insecticide applications, however it was reported that some individuals applied foliar chemical controls. This was unsuccessful, with higher levels of mealy bugs reported weeks after application. In the end, this was an unneeded loss of revenue.

It was later concluded that although Haanchen Mealy Bug is present throughout many counties in 2007, it does not imply significant yield losses in all locales. MSU entomologists are currently conducting investigation on acceptable insecticide options, burning, and tillage for managing this pest.

This situation indicates once again that chemicals are not our best choice for all situations. We can often save time and money by only using chemicals that are proven to cause significant mortality to a pest, while applying the chemical only after a pest density exceeds the economic threshold (pest population density that causes losses equal to the cost of the control measure). Low levels of insects in a commercial production field or garden often are an indicator of a healthy ecosystem with little need of control options.

Pesticides and Human Health
(West Nile Virus)

by Greg Johnson, Veterinary Entomologist

Results from mosquito surveillance trap catches through July and early August have shown that in some parts of the state the number of vector mosquitoes in our trap catches, predominantly Culex tarsalis, has greatly exceeded the catches we recorded in 2003 when 228 humans were diagnosed with WNV and there were four fatalities. Areas with some of the highest catches include Big Horn County, mosquito trap is located at Crow Agency; Custer County, trap site Ft. Keogh; Sheridan County, trap site Medicine Lake NWR; Valley County, hospital trap site; and Lewis and Clark County, trap site south of Helena. There are likely other places, especially along river valleys and irrigated pastures, where we are not trapping that also have high vector populations.

Our first WNV-positive mosquito samples this year were detected in early July from samples collected at Medicine Lake, Harlem, Glasgow, Miles City, and Laurel. This is approximately two to three weeks earlier than the last couple of years. The extremely hot temperatures that we have had during July and the first part of August are rapidly pushing mosquitoes through development from egg to adult causing the high numbers that we are seeing in our traps. Amplification of the virus in the mosquitoes is also greatly accelerated with these hot conditions.

As of mid-August, there have been 6 human WNV cases diagnosed in Montana. WNV transmission from mosquitoes to humans can extend into September, so mosquito prevention still needs to be exercised into early fall. As you know, the best way to avoid WNV infection is to avoid mosquito bites. To do this, use an EPA-registered insect repellent such as those with DEET or picaridin. According to the label, DEET will not damage cotton, wool or nylon but should not be applied to synthetics such as rayon or spandex. You can get extra protection by wearing long sleeves and spraying mosquito repellent directly onto your clothes during peak biting times (dusk to midnight for Cx. tarsalis).

Protecting horses from WNV is equally important. There are repellents sold under various trade names labeled for use on horses with most containing a synthetic pyrethroid like permethrin. These products will repel mosquitoes and other biting flies but are short-lived and need to be re-applied frequently. Horse owners should check with their veterinarians to verify that their animals have been vaccinated against WNV and that their shots are up to date.

For more info on WNV, contact:
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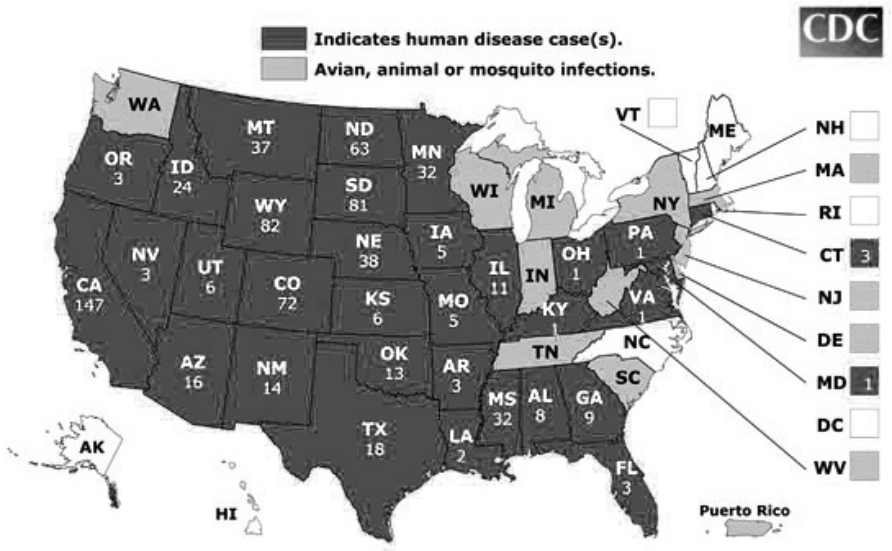
406-994-3875
gdj@montana.edu



2007 WEST NILE VIRUS ACTIVITY IN THE UNITED STATES

(Reported to CDC as of August 14, 2007)

Your Child's Safety with Pesticides

By Cecil Tharp, Pesticide Education Specialist

As a parent of a 4-year-old, I realize the novel situations children often find themselves in due to their unquenchable curiosity. This at times seems comical, but as a chemical applicator I realize this can become a nightmare if precautions are not taken seriously.

This became a vivid reality when I heard the latest news of a 2-year-old girl who died from pesticide exposure while at home in Lubbock, Texas. According to statements, the parents placed Phostoxin pellets around the house for cockroach control. Within hours, this pellet produced a gas that was inhaled by the little girl, causing sickness and death.

This indicates the importance of the pesticide label for not only proper control of the target pest, but for human safety. Sadly, it seems they did not read the product label, which would indicate that Phostoxin was not registered for residential use. Even in non-residential settings there are many precautions indicating the proper protective equipment needed and the specific conditions this product must be applied under. In addition, this is a restricted use product that could not be purchased over the counter, and they did not have a restricted use license. It is mandatory for all applicators to have a private or commercial applicators license to apply restricted use chemicals including Phostoxin. This is due to the increased risk involved.

Keep in mind that almost half of all households with children under five have toxic chemicals stored within reach of their children. In 2004 alone, 71,000 children were involved in pesticide related poisonings in the United States. Infants and children are especially susceptible to pesticides because their organs are still developing, lower body weight, excretory systems are not fully developed, and because of their behaviors that increase exposure (playing on floors, placing objects in their mouth). We can reduce the risk to our children by following a few tips at home:

1) Store chemicals (this includes bleach and household chemicals) out of children's reach.
2) **READ THE LABEL!** Products can be dangerous if used off label.
3) Remove all toys from area prior to applying pesticides. Keep children away until it is safe to re-enter (follow REI on label).
4) If your application is interrupted (phone call), re-close container and remove it from a child's reach.
5) Never transfer pesticides to other containers.
6) Do not apply insect repellants over cuts, wounds, eyes, mouth, hands, or directly to face of your child.
7) Get your home tested for lead if it was built prior to 1978.
8) Ask about lead when purchasing a home.
9) Get your child tested for lead (there are no visible symptoms).
10) Teach children that chemicals are dangerous, while washing children's hands regularly.

Be familiar with the first aid guidelines written on the product label. In an emergency determine what your child was exposed to and follow these guidelines while contacting the Poison Control Center: 1-800-222-1222. Dial 911 or your local emergency service immediately if your child is having respiratory problems or convulsions.

FIRST AID RESPONSES TO CHILDREN EXPOSED TO CHEMICALS

(ALWAYS READ LABEL)

Exposure	First Aid	Follow Up
Swallowing	Induce vomiting only if emergency personnel refer you do so.	Call your poison control center. Dial 911 or your emergency personnel service
Eyes	Hold eyelid open and rinse for 15 minutes with only water.	Contact your poison control center.
Skin	Drench area with water and remove contaminated clothing. Wash skin & hair with soap & water.	Contact your poison control center.
Inhaled	Carry to fresh air	Dial 911 or your local immediately. If air emergency service. is contaminated wear protective equipment before entering. If child is not breathing admisnistor artificial respiration. Open doors & windows.

POISON CONTROL CENTER – 1-800-222-1222

Pest Management Training Tour: Region 5

By Will Lanier,
IPM/Insect Diagnostician, MSU

In 2001 requests from Agriculture agents for more Integrated Pest Management (IPM) training, and requests from Extension specialists for a more coordinated delivery to distant Extension meetings caused the MSU IPM and Pesticide Applicator Training (PAT) programs to embed IPM training into the Pesticide Applicator Training licensing cycle. A Pest Management Training package tailored to the PAT District currently in the final (fifth) year of its PAT licensing cycle was developed. This program was developed to combine IPM training with PAT to provide a more integrated and high quality program for Montana producers and agricultural professionals. This timing provides the Pesticide Specialist with adequate time to allow license credits to be processed. Now in the sixth year of the Pesticide Management Training package, a six credit hour session, is scheduled from October 8-12, 2008. These programs will be within multiple counties of Region 5.

These programs will include MSU research, teaching and research center faculty in PMT and PAT programs. The PMT delivers a high quality, relevant program, tailored to local needs, that offers six pesticide re-certification credits to attendees.

A generalized list of potential subjects and speakers are developed in collaboration with County Extension faculty. Once a generalized list has been developed, County agents can choose subjects from the general list, for their individual meeting, tailoring a program to meet County needs. See the "Pest Management Training" link at IPM.montana.edu/Training on the left hand sidebar for examples of past agendas.

The Worker Protection Standard: Quick Review

By Sarah Holden, Agricultural Specialist, MDA

The Worker Protection Standard (WPS) should be a well-known term for those of us who work in the agricultural field. The WPS regulation, issued by the Environmental Protection Agency (EPA), has been around since 1992. The federal regulation helps to protect agricultural workers from pesticide exposure while producing agricultural commodities on farms, forests, nurseries, and in greenhouses. Unfortunately, it seems Montana farmers and pesticide applicators are not all-together familiar with the WPS. Montana produces a variety of agricultural commodities; however, we are quite different by comparison to states like California and Washington in the number of agricultural workers used to produce these commodities. The following is a brief review of the WPS and its requirements.

The WPS offers protection to approximately 2.5 million agricultural workers (people involved in the production of agricultural plants) and pesticide handlers (people who mix, load, or apply pesticides) that work at over 600,000 agricultural establishments (www.epa.gov). The WPS contains requirements for agricultural employers, growers, and managers to provide to your employees:

- decontamination supplies;
- use of personal protective equipment;
- notification of pesticide applications;
- restricted entry intervals following pesticide application;
- pesticide safety training; and
- emergency medical assistance.

According to the EPA, the regulation covers two types of employees:

- **Pesticide handlers**--those who mix, load, or apply agricultural pesticides; clean or repair pesticide application equipment; or assist with the application of pesticides in any way.

(cont to pg 7)

Pesticide Disposal set for September 11-14

By Levi Ostberg, Agricultural Specialist, MDA

The Montana Department of Agriculture will hold its annual Waste Pesticide Collection Program in Glasgow on September 11, Sidney on September 12, Miles City on September 13 and Billings on September 14. This is a non-regulatory, service program that enables agricultural producers, businesses and other pesticide users to dispose of unusable chemicals safely, economically and conveniently.

Unusable pesticides are those that cannot be applied because the registration has been canceled, such as DDT, EDB, dinoseb, chloridane, endrin, mercury or diazinon. The program also accepts products that cannot be used because of product age, storage conditions, or loss of label. Fertilizers, motor oils, solvents, and paints cannot be accepted at the pesticide collections.

Pre-registration is required. Deadline to pre-register is Tuesday, September 4. The program has a fee of $1 per pound for the first 200 pounds and 50 cents per pound for additional amounts over 200 pounds.

For more information contact Levi Ostberg in Helena at 406-444-5400; mail to Dept. of Agriculture, Pesticide Disposal Program, P.O. Box 200201, Helena, MT 59620-0201; email lostberg@mt.gov; website www.agr.mt.gov/pestfert/disposal.asp.

(cont from WPS on pg 6)

- **Agricultural workers**--those who perform tasks related to the cultivation and harvesting of plants on farms or in greenhouses, nurseries, or forests. Workers include anyone employed for any type of compensation (including self-employed) doing tasks, such as harvesting, picking, repotting plants, or watering, related to the production of agricultural plants on an agricultural establishment.

If a pesticide has been used on an agricultural establishment to produce or maintain an agricultural commodity, then WPS must be followed. Pesticide labels denote the requirement to follow WPS under the "Agricultural Use" box on the label. Some examples of agricultural commodity establishments in Montana are; potato, cherry, sugar beet, hay, small grains, forests under timber production and nursery and greenhouses operations.

As with any regulation, the WPS has some exemptions. For example, immediate family members who work on an establishment where pesticides are used are exempt from many of the requirements. It also has requirements for commercial applicators who apply pesticides to agricultural commodities. To help understand the WPS regulation, the EPA has developed many free publications. EPA's National Agriculture Compliance Assistance Center provides information and numerous resources to assist the regulated community with WPS compliance. http://www.epa.gov/agriculture

The Worker Protection Standard is EPA's number one priority at this time. The Montana Department of Agriculture (MDA) works with the EPA to provide education, outreach and inspections pertaining to WPS in Montana. The MDA conducts routine WPS inspections with pesticide applicators and growers throughout the state. While this regulation can seem daunting and confusing at first glance, it is easily adapted to fit into any agricultural operation. It is our goal to educate those in the agricultural field to help expand WPS in the state's commodity producing areas. By working with Montana State University Extension to help educate private applicators, nursery and greenhouse associations, and grower groups, the MDA hopes to create a better understanding of the WPS regulation. If your establishment falls under WPS or you would like more information as to how you can bring your operation into full compliance, please contact your local county extension or the MDA at 406-444-5400.

Comments and/or Questions from the Public

By Cecil Tharp, Pesticide Education Specialist, MSU

Q: *Beach, N.D.* If I am a certified private applicator from out of state and just moved to Montana, do I need to go through the entire process of certification once again?

A: No, you need to contact the MSU Pesticide Education Office to see if the state you are certified in qualifies for reciprocity with Montana's private applicator program. If so, you simply pay the $50 fee and do not need any additional trainings or exams for initial certification.

Q: *Kalispell, Mont.* Can I simply let my private applicator license expire, and then retake the same open book exam and skip attaining recertification credits?

A: No and yes. This is not advised. Currently, if you let your license expire without attaining 6 recertification credits you may recertify by taking the same exam but as a closed book exam within the first 12 months of expiration. However, this potentially could change in the near future, with higher initial certification standards being proposed by various agencies. It is very probable that within 12 months, a closed book exam will be mandatory for meeting all initial certification standards. It is always advantageous to applicators to attend recertification programs to stay up on new pesticide registrations, safety issues, and regional pest issues which often leads to maximizing personal safety, protecting the environment, and saving money in the long run.

Q: *Butte, Mont.* I am the chair of a nonprofit organization and in charge of maintaining property that is owned by this organization. It will be used as a summer camp for children and I need a restricted use applicator's license to manage the weeds. Do we all need a private applicators license to apply restricted use herbicides?

A: This does not qualify under a private applicator license. This would be illegal. There are 5 categories in which an individual can apply restricted use pesticides which include private, commercial, government, public utility, and non-commercial. A private applicator is defined by FIFRA as a certified applicator that uses or supervises the use on property owned or rented by the applicator or his/her employer for the purpose of producing an agricultural commodity. He did not own or rent the land he wishes to apply restricted use pesticides on, he was not working for the government, and this was not part of a business enterprise. This individual would be classified under the category of non-commercial. Please contact the Montana Department of Agriculture for more information regarding commercial, government, public utility, and/or non-commercial licensing procedures at (406) 444-5400.

Place Stamp Here

MONTANA Department of AGRICULTURE

EXTENSION

MONTANA STATE UNIVERSITY

MSU Pesticide Education Program
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Montana Pesticide Bulletin

MSU Pesticide Safety and Education Program

TRAINING & REFERENCE MATERIALS

Personal Information

Name:_____
Address:_____
_____
County of Residence:_____
Phone:_____
Email:_____

INITIAL PRIVATE APPLICATOR CERTIFICATION - (STUDY MATERIALS)		
Montana Private Pesticide Certification Handbook EPA How to Comply with the WPS (CD) EPA How to Comply with the WPS (Book) MSU Pesticide Recordkeeping Booklet USDA Recordkeeping Manual for Private App Montana Pesticide Bulletin – 2 year subscription		
Complete PSEP Training Packet	***Total Cost = $15.00***	***Check box if needed***

PESTICIDE SAFETY & EDUCATION REFERENCE MATERIALS			
Reference Materials	***Cost***	***#***	***Total***
Montana Private Pesticide Certification Handbook	***$6.00***		
EPA How to Comply with the WPS (CD)	***$1.00***		
EPA How to Comply with the WPS (Book)	***$3.00***		
MSU Pesticide Recordkeeping Booklet	***$1.50***		
USDA Recordkeeping Manual for Private App	***$1.50***		
Montana Pesticide Bulletin – 2 year subscription	***$8.00***		
TIPS for Fighting Weeds on Small Acreages in Montana	***$3.00***		
TOTAL COST			

Please send this form
with cash or check payment to:

MSU Pesticide Education Program
PO Box 172900
Montana State University
Bozeman, MT 59717-2900